REDUNDANTLY CONSTRAINED LAMINAR STRUCTURE AS WEAK-LINK MECHANISMS

Abstract of the Disclosure

Redundantly constrained laminar structures as weak-link mechanisms and a novel method for manufacturing the redundantly constrained laminar structures as weak-link mechanisms are provided. The method for producing the redundantly constrained laminar structures as weak-link mechanisms is carried out by lithographic techniques. A designed pattern is repeatedly chemically etched with a mask to produce a plurality of individual identical units. The units are stacked together to form the laminar structure and are secured together with fasteners. A high quality adhesive can be applied to the sides of the laminar structure to provide the mechanism equivalent to a single piece mechanism. The redundantly constrained laminar structures as weak-link mechanisms of the invention include a stack of a plurality of thin material structures. The stack of structures forming a laminar structure include multiple weak-link connections providing controllable movements in a plane of the layer and having a desired stiffness and stability. The plurality of thin material structures include predetermined locating-holes used with locating-pins to precisely stack the thin material structures together and are used with fasteners to secure the stack together.